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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/774,913

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Lowell L. Winger

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LSI CORPORATION  
1621 BARBER LANE  
MS: D-106  
MILPITAS, CA 95035

EXAMINER

MOHR, ERIC JOHN

ART UNIT

PAPER NUMBER

4181

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DELIVERY MODE

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/774,913

Applicant(s)

WINGER, LOWELL L.

Examiner

Eric J. Mohr

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 09 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date: _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date: _____   | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-5, 9, 10, 12-15, 17, 19, and 20 are rejected under 35 U.S.C. 102(e) as being anticipated by Marpe et al (US 2005/0074176).

Consider claims 1, 12, and 20, Marpe discloses a method and system for determining a context for coding (**see abstract**), comprising the steps of: (A) generating a plurality of results by examining a prediction mode for each of a plurality of neighbor blocks to a current block in a bitstream for digital video (**see paragraph 0087 where Marpe discusses examining the prediction modes of neighboring blocks**), wherein at least one of said neighbor blocks is subpartitioned (**see paragraph 0063 where Marpe discusses sub-dividing macroblock pairs**); (B) generating a plurality of first variables based on said results (**see paragraph 0087 where Marpe discusses giving these variables values based on the modes of neighboring blocks**); and (C) coding said bitstream using a binary arithmetic coding based on a particular context among a plurality of context determined from said first variables (**see paragraph 0088 where**

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**Marpe discusses performing arithmetic encoding using a context designated by the value of the variables).**

Consider claims 2 and 13, Marpe discloses step (C) comprising the sub-step of: generating a second variable based on a sum of two of said first variables **(see paragraph 0089 where Marpe discusses the variable ctxIdxMbField equaling the sum of two variables).**

Consider claims 3 and 14, Marpe discloses determining said particular context from said second variable **(see paragraph 0091 where Marpe discusses using a context model designated by the variable ctxIdxMbField).**

Consider claims 4 and 15, Marpe discloses step (B) comprising the sub-step of: independently setting each of said first variables to a non-zero condition in response to said results indicating that a corresponding one of said prediction modes is for a same list applicable to a syntax element being coded **(see paragraph 0087 where Marpe discusses setting the value of variables to zero or one based on the prediction mode of surrounding blocks).**

Consider claim 5, Marpe discloses step (B) comprising the sub-step of: independently setting each of said first variables to a zero condition in response to said results indicating that a corresponding one of said prediction modes is one of a direct mode and a skip mode **(see paragraphs 0110-0113 where Marpe discusses the occurrence of skipped macroblocks and setting the value of a flag accordingly).**

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Consider claim 9, Marpe discloses said coding comprising context adaptive binary arithmetic decoding **(see paragraphs 0102-0106 where Marpe discusses the pieces and operation of a context adaptive binary arithmetic decoder).**

Consider claim 10, Marpe discloses said coding comprising context adaptive binary arithmetic encoding **(see paragraphs 0140-0143 where Marpe discusses the components of a contex-based adaptive binary arithmetic coder).**

Consider claim 17, Marpe discloses the neighboring blocks comprising a first neighbor block left of said current block and a second neighbor block above said current block **(see paragraph 0079 where Marpe discloses using the macroblock pairs to the left and top of the current macroblock).**

Consider claim 18, Marpe discloses the system wherein said first circuit comprises a context modeling circuit **(see paragraphs 0140-0143 where Marpe discusses the components of a contex-based adaptive binary arithmetic coder including that of context modeling).**

Consider claim 19, Marpe discloses said second circuit comprising one of a context adaptive binary arithmetic decoder**(see paragraphs 0102-0106 where Marpe discusses the pieces and operation of a context adaptive binary arithmetic decoder)** and a context adaptive binary arithmetic encoder**(see paragraphs 0140-0143 where Marpe discusses the components of a contex-based adaptive binary arithmetic coder).**

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 6, 7, 8, 11, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Marpe as applied to claim 1 above, and further in view of Wiengand et al (Joint Video Team (JVT) of ISO/IEC MPEG & ITU-T VCEG (ISO/IEC JTC1/SC29/MIG11 and ITU-T SG16 Q.6) 8th Meeting: Geneva, Switzerland, 23-27 May, 2003).

Consider claims 6 and 16, Marpe discloses the method and system according to claims 1 and 12. Marpe does not explicitly disclose step (B) comprising the sub-step of: independently setting each of said first variables to a zero condition in response to said results indicating that a corresponding one of said prediction modes does not use a pixel prediction from a same list applicable to a syntax element being coded. Wiegand discloses setting a variable to zero if the neighbor block is not in the same prediction mode as the current block(see page 186).

It would have been obvious to one skilled in the art at the time the invention was made to modify the invention of Marpe, and modify the step of setting the variables to include testing the pixel prediction modes, as taught by Wiegand, thus enabling high compression capability for a desired image quality, as discussed by Wiegand (see page xiii).

Consider claim 7, Marpe discloses the method according to claim 1. Marpe does not explicitly disclose that each of said first variables comprise a conditioning term flag that describes a functional relationship between a spatially neighboring symbol and a value of said first variables. Wiengand discloses deriving the variables by several methods including functional relationships (**see pages 183-188**).

It would have been obvious to one skilled in the art at the time the invention was made to modify the invention of Marpe, and modify the step of setting the variables to include functional relationships between neighboring symbols, as taught by Wiegard, thus enabling high compression capability for a desired image quality, as discussed by Wiegard (**see page xiii**).

Consider claim 8, Marpe discloses method according to claim 1. Marpe does not explicitly disclose each of said first variables comprises an absolute value motion vector difference component. Wiengand discloses the variables comprising an absolute value motion vector difference component (**see pages 186-187 where Wiengand discusses computing the absolute value motion vector difference and using said difference to derive a mode for context coding**).

It would have been obvious to one skilled in the art at the time the invention was made to modify the invention of Marpe, and modify the step of setting the variables to include the use of motion vectors, as taught by Wiegard, thus enabling high

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compression capability for a desired image quality, as discussed by Wiegard (see page xiii).

Consider claim 11, Marpe discloses the method according to claim 1, wherein step (B) comprises the sub-steps of: independently setting each of said first variables to a zero condition in response to said results indicating that a corresponding one of said prediction modes is at least one of (i) a skip mode, (ii) a direct mode (**see paragraphs 0110-0113 where Marpe discusses the occurrence of skipped macroblocks and setting the value of a flag accordingly**); and independently setting each of said first variables to a non-zero condition in response to said results indicating that said corresponding one of said prediction modes uses said pixel prediction from said same list applicable to said syntax element being coded(**see paragraph 0087 where Marpe discusses setting the value of variables to zero or one based on the prediction mode of surrounding blocks**), and wherein step (C) comprises the sub-steps of: generating a second variable based on a sum of two of said first variables; and determining said particular context from said second variable (**see paragraph 0089 where Marpe discusses the variable `ctxIdxMbField` equaling the sum of two variables**). Marpe does not explicitly disclose independently setting each of said first variables to a zero condition in response to said results indicating that a corresponding one of said prediction modes does not uses a pixel prediction from a same list applicable to a syntax element being coded. Wiegard discloses setting a variable to



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zero if the neighbor block is not in the same prediction mode as the current block (**see page 186**).

It would have been obvious to one skilled in the art at the time the invention was made to modify the invention of Marpe, and modify the step of setting the variables to include testing the pixel prediction modes, as taught by Wiegard, thus enabling high compression capability for a desired image quality, as discussed by Wiegard (**see page xiii**).

#### **Contact Information**

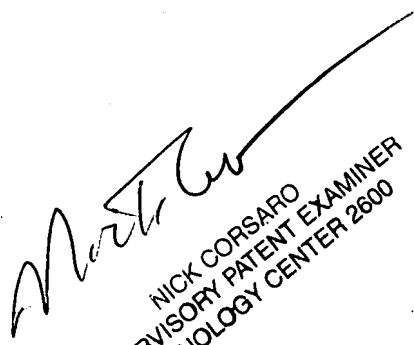
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric J. Mohr whose telephone number is (571) 270-5140. The examiner can normally be reached on 7:30am-5pm M-Th, 7:30am-4pm Alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nick Corsaro can be reached on (571) 272-7876. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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NICK CORSARO  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600